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Mark Gonikberg

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EXAMINER

LUGO, DAVID B

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/658,754

Applicant(s)

GONIKBERG, MARK

Examiner

David B. Lugo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 13-29 and 32-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-48 and 50-55 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 13-19, 21, 22, 24-29, 32 and 33 is/are rejected.
- 7) ☒ Claim(s) 6, 20, 23 and 49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/17/04 have been fully considered but they are not persuasive.
2. Regarding the rejection of claims 1-3, 5, 7, 9 and 13-15 under 35 U.S.C. 102(b) as being anticipated by Bremer et al., applicant states that Bremer et al. do not teach a communication protocol allowing variability in one or more characteristics, and argues that the hidden identification signal is not part of the V.25 protocol, and therefore the V.25 protocol cannot allow for variability in the hidden identification signal. However, although the protocol used in system of Bremer et al. encompasses the CCITT V.25 standard, the V.25 standard is utilized in combination with an identification signal, and it is this combination that is considered to be the protocol used in the system of Bremer et al.
3. Newton's Telecom Dictionary defines protocol as a specific set of rules, procedures or conventions relating to format and timing of data transmission between two devices. In the modem of Bremer et al., the protocol comprises an identification signal that is combined with an industry standard answering signal (col. 2, lines 49-52). When an answerback tone is detected by a modem originating a call (Fig. 4 - step 505), it is determined if an identification signal is present (step 510), where if it is present, a second tone is transmitted (step 520), and if not, the standard V.25 sequence is completed (step 525). The protocol of Bremer et al. thus provides variability in the frequency characteristics of transmitted signals by providing for the transmission and absence of transmission of identification signals.

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4. Applicant further argues that Bremer et al. do not disclose “comparing the evaluated one or more characteristics to characteristics of signals sent by known devices”. However, the comparison is implicit in determining the presence of the identification signals. The term compare is defined: to examine in order to note the similarities or differences of. That is, if tones A and C are present, then the far end modem can be identified as a known device. Thus by determining the presence of tones A and C, the signals transmitted by the far end modem are, in effect, compared to characteristics of signals of a known device, i.e. a device in which tones A and C are present. Bremer et al. is thus considered to teach the claimed limitation of “comparing the evaluated one or more characteristics to characteristics of signals sent by known devices”.

5. Regarding the rejection of claims 24-29 and 33 under 35 U.S.C. 102(b) as being anticipated by Amundson, applicant states that at most, Amundson discloses a storage element containing a character associated with either a matched or non-matched protocol, and argues that Amundson does not disclose or suggest “storage elements containing known one or more parameters associated with one or more known communication devices”.

6. In response, it is noted that in order to communicate according to a matched-protocol mode, two communicating devices must support the mode (col. 3, lines 42-44). A known device is thus considered to be a device that is able to communicate according to the matched-protocol mode. Hence, a storage element containing a character associated with a matched protocol is, by extension, a storage element containing known one or more parameters associated with one or more known communication devices.

7. Applicant further argues that the character sampling of Amundson is not the same as measuring parameters. In response, as noted in the previous Office action, the presence of a

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particular character is considered to be a parameter associated with one or more signals sent during a communication session. The parameter is measured and compared by determining the presence of such a particular character, which involves the sampling and sensing of the necessary character (col. 6, lines 14-20). Thus, Amundson is considered to teach an apparatus comprising a device operable to measure one or more parameters associated with one or more signals sent during a communication session.

8. Regarding the rejection of claims 1, 2, 4, 5, 7, 13-15, 24-27, 29 and 33 under 35 U.S.C. 102(b) as being anticipated by Kamerman, applicant traverses all rejections. With respect to claims 1 and 13, applicant argues that Kamerman does not suggest V.33 allowing for variability of the set of identifying frequencies. However, as stated above, a protocol is defined as a specific set of rules, procedures or conventions relating to format and timing of data transmission between two devices. In the system of Kamerman, the protocol that is used, while transmitting conventional training signals corresponding with CCITT Recommendation V.33, is not solely V.33, but also encompasses short training signals transmitted along with identifying frequencies (col. 5, lines 45-60). That is, the protocol used in Kamerman is the overall combination of the conventional training signals (V.33 compliant training signals) along with the subsequent short training signals. It is this protocol that provides identifying frequencies selected from a group of possible frequencies (col. 6, lines 11-16), thus providing variability of the set of identifying frequencies.

9. Applicant further argues that the DFT calculations are not utilized to identify remote modems. However, it is the address frequency recognition (col. 6, line 43) that enables the

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remote modem to be identified (see col. 5, lines 58-60; abstract), as the address frequencies are the identifying frequencies.

10. With respect to claim 24, applicant argues that Kamerman does not disclose or suggest “a device operable to measure one or more parameters associated with one or more signals sent during a communication session with a remote communications device.” However, Kamerman discloses a modem including DFT calculator 142 that performs calculations (i.e. measurements) for measuring parameters (i.e. frequency characteristics of the identifying signals). Kamerman is thus considered to teach the claimed first device.

11. Regarding the rejection of claims 16-19, 21, 22 and 32 under 35 U.S.C. 103 as being unpatentable over Kamerman, applicant traverses all rejections, relying on the same arguments as the rejections made with respect to claims 1 and 13. Accordingly, the examiner references the above response to applicant’s arguments regarding those claims.

12. Regarding claims 5, 14, 15 and 25, applicant argues that Kamerman does not disclose enabling an optimizing communication feature or a deficiency compensation communication feature. In response, Kamerman discloses retrieving stored receiver parameters from a receiver parameter storage unit 240 (Fig. 3B), where the parameters are internal gain parameters and equalizer values used to compensate for the transmission path (col. 1, lines 30-35). The use of those parameters is considered to provide the enablement of performance enhancing and deficiency compensation features to provide better communication.

13. Further regarding claims 5, 14, 15 and 25, applicant argues that the rejections are conflicting, contending that Office action is identifying the stored parameters and coefficients as the claimed characteristics instead of the identification frequencies. However this is not the case.

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The Office action has not stated that the claimed characteristics are the stored parameters and coefficients, but rather, the stored parameters are described as being retrieved from a location identified by the identification frequencies (i.e. frequency characteristics). Thus, the interpretation of the frequency characteristics as the claimed "one or more characteristics" has not changed in the rejection of claims 5, 14, 15 and 25.

14. Regarding the rejection of claims 19 and 22, applicant relies on the arguments presented with respect to claims 14 and 15. Accordingly, the examiner references the above response to applicant's arguments regarding those claims.

15. The rejection of claims 1-5, 7-9, 13-19, 21, 22, 24-29, 32 and 33 are maintained, and are restated below.

Claim Objections

16. Claim 28 is objected to because of the following informalities:

Claim 28, line 2, it is suggested that "the number of symbols sent" be amended to --a number of symbols sent--.

Appropriate correction is required.

17. Claim 49 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

The limitations of claim 49 are already recited in parent claim 43. Claim 49 should be cancelled.

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1-3, 5, 7, 9 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Bremer et al. U.S. Patent 5,311,578.

20. Regarding claim 1, Bremer et al. teach a technique for automatic identification of a remote modem by evaluating the frequency characteristics of signals sent by a remote modem to a local device as it is determined whether an answerback tone is detected (Fig. 5 – step 505), wherein if the answerback tone is detected, the frequency characteristics of the received signal are compared to the characteristics of a particular modem type by determining whether a low-level identification tone is included with the answer tone (steps 510, 530).

21. Regarding claims 2 and 3, if the low-level tones are identified, the remote modem is characterized as a particular type of modem (col. 5, lines 41-47).

22. Regarding claim 5, identification of the modem type as the same type as the local device will allow for additional features desired by the customer that are considered to enhance communication between the devices (col. 1, lines 42-64).

23. Regarding claim 7, the remote device is one of an analog modem and a digital modem.

24. Regarding claim 9, identification of the modem type as the same type as the local device will allow for additional features desired by the customer that are considered to enhance performance (col. 1, lines 42-64).

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25. Regarding claim 13, Bremer et al. teach an apparatus for automatic identification of a remote modem by evaluating the frequency characteristics of signals sent by a remote modem to a local device as it is determined whether an answerback tone is detected (Fig. 5 – step 505), wherein if the answerback tone is detected, the frequency characteristics of the received signal are compared to the characteristics of a particular modem type by determining whether a low-level identification tone is included with the answer tone (steps 510, 530).

26. Regarding claims 14 and 15, identification of the modem type as the same type as the local device will allow for additional features desired by the customer that are considered to enhance communication between the devices (col. 1, lines 42-64).

27. Claims 24-29 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Amundson U.S. Patent 4,680,773.

28. Regarding claim 24, Amundson teaches a communications system utilizing a multi-mode modem where the modem 13 measures a parameter associated with signals sent by a remote device by sampling received characters, and compares the sampled characters to determine if the character necessary for initiating a matched-protocol link is detected (col. 6, lines 1-5). The modem inherently contains a storage element containing the character necessary for initiating the matched-protocol link in the comparison.

29. Regarding claim 25, the modem provides optimized data transmission and error correction when operating the special matched-protocol mode (col. 3, lines 21-30).

30. Regarding claim 26, the remote modem is identified as a modem supporting the matched-protocol mode.

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31. Regarding claim 27, the signals are sent during training or initialization of the transceiver (col. 5, lines 50-68).

32. Regarding claim 28, the one or more parameters is the presence of the character necessary for initiating the matched-protocol link.

33. Regarding claim 29, the first device is a modem 13.

34. Regarding claim 33, the modem comprises a general purpose processor 18 (Fig. 2).

35. Claims 1, 2, 4, 5, 7, 13-15, 24-27, 29 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamerman U.S. Patent 4,849,989.

36. Regarding claim 1, Kamerman teaches a master modem receiver 80 that evaluates the frequency characteristics of signals transmitted in synchronism with a training sequence in order to identify the remote modem transmitting to the master modem (col. 5, lines 58-60), where the identifying signals are considered to be signals being sent according to a communication protocol allowing variability in one or more characteristics, the one or more characteristics being frequency characteristics of the identifying signals, and DFT calculations are effected in DFT calculator 142 for recognition of the transmitting modem (col. 6, lines 20-44).

37. Regarding claim 2, the identity of the remote modem is based on the determined frequency characteristics (col. 5, lines 58-60).

38. Regarding claim 4, the identifying signals are transmitted in synchronism with a training sequence (col. 5, lines 58-60).

39. Regarding claim 5, previously stored receiver parameters and coefficients are retrieved from the identified location based on the identified remote modem, considered to enable a communication feature for better communication.

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40. Regarding claim 7, the remote modem is inherently either a digital or an analog modem.

41. Regarding claim 13, Kamerman teaches a master modem receiver 80 that evaluates the frequency characteristics of signals transmitted in synchronism with a training sequence in order to identify the remote modem transmitting to the master modem (col. 5, lines 58-60) using DFT calculations effected in DFT calculator 142 and inherently comprising means for recognition of the transmitting modem based on the DFT calculations (col. 6, lines 20-44), where the identifying signals are signals being sent according to a communication protocol allowing variability in one or more characteristics, the one or more characteristics being the frequency characteristics of the identifying signals.

42. Regarding claims 14 and 15, previously stored receiver parameters and coefficients are retrieved from the identified location based on the identified remote modem, considered to enable performance enhancing and deficiency compensation features.

43. Regarding claim 24, Kamerman teaches a master modem receiver 80 that evaluates the frequency characteristics of signals transmitted in synchronism with a training sequence in order to identify the remote modem transmitting to the master modem (col. 5, lines 58-60) using DFT calculations effected in DFT calculator 142 for recognition of the transmitting modem based on the DFT calculations (col. 6, lines 20-44), where the identifying signals are signals being sent according to a communication protocol allowing variability in one or more characteristics, the one or more characteristics being the frequency characteristics of the identifying signals, modem receiver 80 inherently comprises storage elements containing the known frequency characteristics of the different remote modems for comparison to enable the identification of the remote modem that is transmitting.

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44. Regarding claim 25, previously stored receiver parameters and coefficients are retrieved from the identified location based on the identified remote modem, which are considered to enable performance enhancing features.

45. Regarding claim 26, the identity of the remote modem is based on the determined frequency characteristics (col. 5, lines 58-60).

46. Regarding claim 27, the identifying signals are transmitted in synchronism with a training sequence (col. 5, lines 58-60), considered to be sent during transceiver training.

47. Regarding claim 29, the device is a modem 80.

48. Regarding claim 33, the modem inherently comprises a general purpose processor.

Claim Rejections - 35 USC § 103

49. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

50. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer et al.

51. Regarding claim 8, Bremer et al. teach a technique for automatic identification of a remote modem as described above, but do not disclose that communication is performed in accordance with ITU-T Recommendation V.90. However, it would have been obvious to one of ordinary skill in the art to use the identification method of Bremer et al. in a modem system complying with ITU-T Recommendation V.90 in order to utilize non-industry standard features, as taught by Bremer et al. (col. 1, lines 56-60).

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52. Claims 16-19, 21, 22 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamerman.

53. Regarding claim 16, Kamerman teaches a master modem receiver 80 that evaluates the frequency characteristics transmitted in synchronism with a training sequence in order to identify the remote modem which is transmitting to the master modem (col. 5, lines 58-60), where the identifying signals are considered to be signals being sent according to a communication protocol allowing variability in one or more characteristics, the one or more characteristics being frequency characteristics of the identifying signals, and DFT calculations are effected in DFT calculator 142 for recognition of the transmitting modem (col. 6, lines 20-44).

54. Kamerman does not disclose that the steps performed are implemented via instruction sequences stored on computer readable storage medium. However, it is well known in the art to store information in computer readable storage media for execution by a processor. It would have been obvious to one of ordinary skill in the art to store information in an information storage media to implement the method disclosed by Kamerman because a software implementation reduces the need for application specific hardware and allows for changes to be easily implemented without the need for additional hardware.

55. Regarding claim 17, the identity of the remote modem is based on the determined frequency characteristics (col. 5, lines 58-60).

56. Regarding claim 18, selection of the computer readable medium to be one of a magnetic, optical or electronic storage medium is deemed a design consideration that fails to patentably distinguish over the prior art of record.

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57. Regarding claims 19 and 22, previously stored receiver parameters and coefficients are retrieved from the identified location based on the identified remote modem, considered to enable better communication and performance enhancing features.

58. Regarding claim 21, the computer program is considered to be executable on a device having communication capability coupled to the remote communication device.

59. Regarding claim 32, Kamerman teaches a communications system utilizing a modem as discussed above, but does not disclose that the modem is disposed on a single integrated circuit.

60. However, it is well known to implement circuitry on a single integrated circuit to conserve space. Therefore, it would have been obvious to one of ordinary skill in the art to implement the modem of Kamerman on a single integrated circuit to conserve space.

61. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amundson.

62. Regarding claim 32, Amundson teaches a communications system utilizing a modem as discussed above, but does not disclose that the modem is disposed on a single integrated circuit.

63. However, it is well known to implement circuitry on a single integrated circuit to conserve space. Therefore, it would have been obvious to one of ordinary skill in the art to implement the modem of Amundson on a single integrated circuit to conserve space.

Allowable Subject Matter

64. Claims 34-48 and 50-55 are allowed.

65. Claims 6, 20 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and if amended to overcome any other objections set forth in this Office action.

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Conclusion

66. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Lugo whose telephone number is 571-272-3043. The examiner can normally be reached on M-F; 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dl
11/4/04


KHAI TRAN
PRIMARY EXAMINER